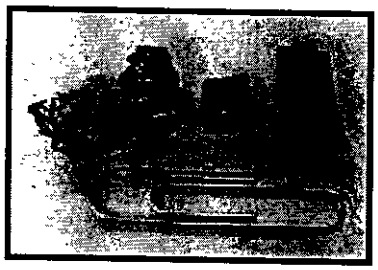
*Exhibit 1*

# If your home contains loose-fill vermiculite attic insulation, this notice may affect your rights.

## Court Ordered Class Action Notice

(Upon Court-approval to proceed, a photograph(s) will be taken in an attic space showing vermiculite and possibly a bag of Zonolite, and will appear here along with an inset photograph(s) similar to the photo below and to the right from the EPA website (all rights to the photo below used in this draft are reserved for the copyright owners)



*Zonolite Attic Insulation is vermiculite shaped like a small nugget, and varies in color from silver-gold to gray-brown It has also been described as layered with a glittery, granular appearance The granules are small about the size of a pencil eraser and may have a silvery, gold, translucent or brownish cast After years in the attic however, the granules may darken to black or gray A typical individual pellet appears expanded like an accordion The product was sold in bags prior to 1985 Note that Zonolite Attic Insulation may be found underneath subsequently installed insulation of other types such as rolled fiberglass insulation*

This is a Court-ordered notice to anyone in Washington with loose-fill vermiculite insulation in their attic or walls sold as Zonolite Attic Insulation A class action lawsuit entitled Marco Barbanti v W R Grace & Co et al , case no. 00201756-6, has been certified by the Spokane County Superior Court You are part of the Class if you are an owner or occupier of real property located in the State of Washington in which Zonolite Attic Insulation has been installed Lead class counsel is Darrell Scott, Lukins & Annis, P S , Spokane, Washington

According to the Plaintiff, Zonolite Attic Insulation contains readily airborne asbestos fibers that constitute a present threat to public health and safety if disturbed for example through home repairs or remodeling, storage of belongings in the attic, etc The Plaintiff claims that Zonolite Attic Insulation is not reasonably safe in design and/or manufacture The defendants deny any wrongdoing, deny that the insulation is defective or that it constitutes a present threat to public health and safety, and assert that your failure to take precautions with respect to this product may release the defendants from liability The Court has not ruled on the merits of Plaintiff's claims or Defendants' positions

The Plaintiff seeks equitable relief including a Court supervised, defendant funded identification and notification program, and establishment of a Court supervised, defendant funded health and safety research and education trust which provides safety procedures and remediation techniques. In addition, Plaintiff seeks a Court order establishing a Court supervised, defendant funded remediation containment program to provide class members with information, training, equipment and funding necessary to ensure the safe containment of asbestos hazards as well as a safe environment for those homes or buildings that contain Zonolite Attic Insulation

Although you may not exclude yourself from this "mandatory" Class, if you believe you are or may be a member of the class, you may contact class counsel at 1-800-000-0000 so that you may be kept updated as to the status of the litigation, or write to Zonolite Claims, PO Box 0000, Spokane, WA 00000 You may also send a fax to 1-000-000-0000 or e-mail to classcounsel@zonoliteclaims com PLEASE DO NOT CONTACT THE COURT

### For More Information about Zonolite, Vermiculite and Asbestos:

***If you're not sure whether you have Zonolite or other vermiculite attic insulation, you may visit the Court's website www.zonoliteclaims.com for links, information, photographs and descriptions.***

***The Environmental Protection Agency ("EPA") website provides detailed information about vermiculite, including their advice regarding the safe handling of vermiculite attic insulation, and the risks associated with asbestos exposure. Visit the EPA and Washington State Department of Health websites for more information by going to www.zonoliteclaims.com or visit them directly at:***

**http://www.epa.gov/asbestos.htm**
**http://epa.gov/asbestos/insulation.htm**
**http://www.doh.wa.gov/chp/ts/asbestosvermiculiteinsulation.html**

***You may also call 1-800-000-0000 to contact the attorneys representing the class in this action, to be kept informed of your legal rights.***

**1-800-000-0000**
**www.zonoliteclaims.com**

EXHIBIT PLAINTIFF'S 5 MDL 1376

**EXHIBIT 6**

PERFORMANCE REPORT

0366596

up Industrial Chemicals RCA No. 12-2

sion Construction Products Date Approved April 3, 1975

Reporting Unit U.S. Zonolite Operations



| ($000) | (1) Amount of Expenditure | (2) Average Grace Capital Employed | (3) 1977 Net Income | (4) Percent Return on GCE |
|---|---|---|---|---|
| (1) RCA Projection | $10,200 | $38,077 | $4,572 | 12.0% |
| (2) Actual | 9,799 (a) | 27,201 | 4,035 | 14.8 |
| Variance/Fav/(Unfav) | | | | |
| (3) Amount | $ 401 | $10,876 | $ (537) | 2.8% Pts. |
| (4) Percent | 3.9% | 28.6% | (11.7)% | |

183.9c

RCA #12-2, entitled "Overrun - New Vermiculite Mill - Libby, Montana", requested to spend an additional $2,600,000 (for a total expenditure of $10,200,000) to complete the replacement of Construction Products Division's (CPD) vermiculite mill in Libby, Montana. The objectives of this project were (a) to increase Zonolite vermiculite milling capacity from 310,000 tons in 1970 to 426,000 tons annually by 1977, (b) to improve milling productivity and thereby lower direct manufacturing costs, and (c) to comply with federal and state pollution requirements.

After two years (1975 and 1976) of start-up problems and process design modifications at the new Libby mill, Zonolite's vermiculite milling capacity is presently estimated at 450,000 tons annually or 24,000 (5.6%) ahead of RCA #12-2 projections. The Enoree, South Carolina milling capacity is estimated at 122,000 tons or 12,000 (10.9%) above RCA #12-2, while the Libby, Montana operation has an estimated annual capacity of 328,000 tons or 12,000 tons (3.8%) favorable to RCA projections. In 1977, the new Libby mill produced 1,005 tons of vermiculite concentrate per day (TPD) which was 53 TPD (5.6%) favorable to RCA #12-2 projections. This favorable operating performance is primarily due to improved mill reliability (% On-Stream Time of 96.1% versus 92.0% as projected in RCA #12-2) and a mill feed rate of 250 tons per hour (TPH), which is 15 TPH (6.4%) ahead of RCA projections.

not including Mine Off costs.

In addition to exceeding the RCA output objectives, the direct manufacturing costs at the Libby mill were $11.851 per ton of concentrate produced which was $2.737 (18.8%) favorable to the RCA #12-2 estimate of $14.58 per ton. This favorable cost performance is primarily attributable to the 5.6% increase in daily output, coupled with lower reagent consumption resulting from the process design improvements made to the mill feed preparation circuits as part of the RCA #12-2.

The pollution problems which were identified in RCA #12-2 (i.e., excessive levels of fugitive dust from the dry screening circuits, particulate emissions from the ore dryer stacks, and mill tailings (waste) being carried by the spring run-off into the Kootenai River) have been eliminated. If Zonolite had not been actively working to solve these pollution problems at Libby, a forced shutdown of the facilities would have occurred in 197[illegible]

(a) As of December 31, 1977, $9,799,000 (96.1%) of the authorized $10,200,000 has been spent. An additional $401,000 will be spent in 1978 for further mill improvements bringing total spending to $10,200,000.

While the pollution related objectives of RCA #12-2 have been resolved, Zonolite is presently faced with tightening government standards covering exposure to asbestos fibers. Vermiculite concentrate contains naturally occurring trace quantities (less than 0.2%) of fibrous tremolite asbestos. Since all forms of asbestos including tremolite, are classified as carcinogens, Zonolite's mines, expanding plants, products, and customers are subjected to a host of regulations being promulgated by the Occupational Safety and Health Administration (OSHA), Mine Safety and Health Administration (MSHA, Consumer Products Safety Commission (CPSC), the Environmental Protection Agency (EPA) and others including a variety of state level agencies. At the present time all of Zonolite's products and operations satisfy existing regulatory standards covering exposure to asbestos. The new mill at Libby has been an important factor in meeting these standards. While research continues to work toward further reducing tremolite from the vermiculite concentrate and our products, Zonolite remains subject to all asbestos regulations.

In 1977, the Zonolite business generated net income (Grace Share) of $4,035,000 on net sales of $65,483,000 for a 14.8% return on average Grace Capital Employed of $27,201,000. While this 14.8% return on GCE is 2.8 percentage points favorable to the 12.0% return as projected in RCA #12-2, the actual 1977 sales volume is approximately 18.3% below RCA #12-2 estimates. Since the RCA was prepared, Zonolite has been operating in a severely depressed construction economy. Nonresidential building activity in 1977, which represents approximately 56% of Zonolite net sales, is estimated to be 32.1% below 1974 levels. The length and severity of this downturn was not anticipated by CPD management, nor by any of the major economic forecasters (i.e., F. W. Dodge, Data Resources, and Grace's Business Economics Group) at the time RCA #12-2 was prepared. Despite this precipitous drop in construction activity, Zonolite net sales have increased at an average annual rate of 9.9% from 1974 to 1977, while net income grew at an average annual rate of 78.8% over the same period. This rapid growth in net income is primarily due to the resolution of Libby new mill start-up problems and a 57.5% improvement in Libby productivity (from 638 tons per day in 1974 to 1,005 tons per day in 1977).

The following table presents key data for U.S. Zonolite Operations for actual results since 1973 and forecasted performance over 1978B - 1982F.

(See table on the following page)

03665098

U.S. Zonolite Operations ($000)

Key Data

| Line No. | Year | (1) Net Sales | (2) Net Income (Grace Share) | (3) Average Capital Employed GCE | (4) Average Capital Employed TCE (Incl.Cap. Leases) | (5) % Return on GCE | (6) % Return on TCE (Incl.Cap. Leases) |
|---|---|---|---|---|---|---|---|
| (1) | 1973A | $46,639 | $2,479 | $23,908 | $24,662 | 10.4% | 10.6% |
| (2) | 1974A | 49,307 | 706 | 26,522 | 28,867 | 2.7 | 2.9 |
| (3) | 1975A | 53,240 | 1,153 | 27,115 | 29,119 | 4.3 | 4.2 |
| (4) | 1976A | 55,755 | 1,512 | 27,369 | 29,247 | 5.5 | 5.4 |
| (5) | 1977A | 65,483 | 4,035 | 27,201 | 29,079 | 14.8 | 14.1 |
| (6) | 1977 Per RCA F12-2 | 78,454 | 4,572 | 38,077 | 40,385 | 12.0 | 11.6 |
| (7) | 1978B | 70,863 | 3,730 | 30,642 | 32,520 | 12.2 | 11.7 |
| (8) | 1979F | 79,576 | 4,301 | 33,584 | 35,462 | 12.8 | 12.3 |
| (9) | 1980F | 88,485 | 5,024 | 35,918 | 37,786 | 14.0 | 13.5 |
| (10) | 1981F | 98,585 | 5,591 | 37,891 | 39,769 | 14.8 | 14.3 |
| (11) | 1982F | 110,118 | 6,009 | 39,931 | 41,809 | 15.0 | 14.6 |
| | % Variance Fav/(Unfav) 77A vs. 77 | | | | | | |
| (12) | Per RCA F12-2 | (16.5)% | (11.7)% | 28.6% | 28.0% | 2.6% Pts. | 2.3% Pts. |
| | % Average Annual Change Fav/(Unfav) | | | | | | |
| (13) | 1973A - 1977A | 8.9% | 13.0% | (3.3)% | (4.2)% | | |
| (14) | 1977A - 1982F | 11.0 | 8.3 | (8.0) | (7.5) | | |

Zonolite net sales are forecasted to increase at an average annual rate of 11.0% reaching $110,118,000 in 1982, while net income is projected to be $6,009,000 in 1982 for a 14.6% return on TCE of $41,809,000. The forecast reflects an improving construction economy throughout the forecast period. In addition, the energy shortage will continue to stimulate demand for building insulation products. At the time the 1978 Budget and Forecast was prepared, the sales of Zonolite insulation products were not expected to reach the 1977 volume levels until 1980 and Zonolite's return on TCE was not expected to exceed 14.0% before 1981. Although shortages of competing insulating materials contributed to Zonolite's high volume of insulation product sales in 1977, we now believe our forecasts are conservative. If sales of insulation products in 1978 continue at 1977

15077969

record levels, then Zonolite's net income could reach $4,700,000 in 1978 for a 14.7% return on TCE of $32,520,000. However, at this time, it remains extremely difficult to predict when insulation sales will peak and what, if any, impact the pending energy legislation in Congress will have on Zonolite's insulation products. Finally, sales on non-construction related products, particularly agricultural/horticultural products, are expected to provide growth opportunities for Zonolite based upon trends such as increased leisure time and continuing interest in ecology.

**EXHIBIT 7**

0641949

GRACE

Construction Products Division

W. R. Grace & Co.
62 Whittemore Avenue
Cambridge, MA 02140

(617) 876-1400

October 7, 1983

TO: R. J. Bettacchi

FROM: G. N. Ciampa

SUBJ: Monthly Report - September 1983

Business Summary

Polycel Products - Total shipments during the month of 69.0M lbs are 15.9% behind budget but are 11.3% ahead of September 1982.

Strong sales in Texas and the Central region in Professional accounted for the majority of the overrun.

Sales through our consumer and industrial reps were strong enough (31.0M lbs.) to offset the aerosol sales underruns in the Central and Eastern regions.

Wall Insulation Products - ZMI sales volume of 212.0M bags were 9.8% ahead of last September and 7.6% ahead of budget. Year to date sales volume of 1643M bags are 3.3% ahead of September 1982 and 5.0% ahead of budget.

Thermo-stud sales of 582 MSF were disappointing after strong sales in July and August; we felt September would be even better. Sales volume for the month were 34.4% behind last September and behind budget by 52.2%. Year to date sales volume is even with last year but behind budget 35.9%.

Attic Insulation - Sales volume of 88.0M bags are for the sixth straight month below 1982 levels. Year to date sales volume is 18.5% below last year.

See product volume summary chart on next page for detailed analysis of monthly and year to date volumes.

WR0007985

EXHIBIT 2 Emergency Motion

PLAINTIFF'S EXHIBIT 7 MDL 1376

Market and Competition

Polycel Products

In mid-September we launched a major program aimed at regaining business in Texas. We are offering competitive prices and extended payment to twenty-seven target accounts.

We're on the right track - we have sold 4.0M lbs. in a short period of time Eagle Insulators, Inc. has taken advantage of the program and ordered 1.2M lbs. Their purchases in 1993 prior to this were only 1.2M lbs. versus 13.2M lbs. thru September 1992. We also regained Diversco's business in Dallas. They ordered 1.8M lbs. under the program. When they were a full time customer in 1981, they purchases over 10.0M lbs.

Owens Corning management have approved Polycel One for sale through their sixty-five supply centers. Polycel is the only foam sealant in an aerosol can that they have allowed their supply centers to sell. We have received orders already for 120 cases from the Louisville and Cincinnati centers.

We participated in several dB Plus acoustical sealant seminars put on at the Owens Corning branches in Columbus and Cincinnati. These seminars were a joint effort between Mike Ragan's people and the Owens Corning branch managers. As a result of the effort O.C. is stocking dB Plus. They were successful in securing distribution in Louisville and Cincinnati.

Polycel One is being advertised by Cotter/True Value in October in the following magazines: BETTER HOMES AND GARDENS, FAMILY CIRCLE, MECHANICS ILLUSTRATED, POPULAR SCIENCE, POPULAR MECHANICS, SPORTS ILLUSTRATED, (World Series Preview) and OUTDOOR LIFE. Also the True Value direct mail circular going out in October to 20.3 million homes will also feature Polycel. The advertising we are receiving is an example of co-op advertising at its best. For a fraction of what it would actually cost, our product will be brought before over 100.0 M people in October.

M. Toben has received an order for a new consumer account in the Northwest. T & A has ordered 1400 cans of PCS's and an order is pending from the Angels centers in Southern California.

The industrial business appears to be picking up. We have lowered our price in two areas of the country to keep from losing business. We also introduced a 5% sales increase in PC8's effective 9/15/83. Now that the fall weather has arrived we should expect to see a surge over the next three months.

In September leads received from the JULY BUILDER magazine were sent out to our certified contractors and distributors. Also a copy of the leads and letters sent to our customers was sent out to the Polycel specialists for follow up.

Wall Insulation

Central Regional Management has agreed to change over to the revised T-clip system. New clips and the new channel have already been shipped to the Milwaukee plant.

Two new T-clip jobs were started in September. One job is in Waco, Texas and that is a 2 1/2 inch job and the second, a 2 inch job in Florida.

We signed the Dryvit agreement and have returned it to them. We are waiting at this point for Dryvit's approval and we can begin to actively pursue this business in Phoenix, Arizona and in Southern California. There are currently 100.0M board feet of material aging at the South Gate facility.

Another OCF Supply Center has been added to the Thermostud distributor list. The supply center in Atlanta purchased a half truckload of Thermostud for their warehouse and began marketing the product in September. This is the first OC supply center in the Southern Region to begin marketing Thermostud.

A slide presentation explaining the revised Thermostud T-clip system has been distributed to the regional offices as an aid to helping the sales force introduce the revised system to distributors.

The ZMI incentive program ended in September. We know the program was successful and a detailed analysis will follow.

We continue to get reports that EPS scrap is winning in obtaining acceptance at the contractor level over ZMI. We are developing sales tools to aid in defeating this low price competitor.

The 1984 Sweet's catalogs for the Thermostud system with the new T-clip and channel as well as ZMI have been completed and are printed.

Attic Insulation

Overall, poor insulation sales at the retail level have affected attic insulation. Even the best campaign doesn't seem to be able to compete with 80 and 90 degree temperatures. With many stores carrying last year's inventory and consumers who aren't interested we have a product which is behind last year by 20%.

Research and Development

Polycel Products

In October we will begin the market test of the new improved A-1 catalyst. We are producing one hundred PC60-D's and one PC3600. These will be distributed around the country to specific accounts. We will attempt to observe the operation of as many of the A-1 catalyst tanks in the field as possible.

The private label 9.5 board foot two-component kit continues to elude us. The latest delivery date is October 15th. Since we have been promised this for the last four months, I don't put a lot of faith in this event occurring.

In Texas we experienced several failures of the new refill valve. The problem with the valve has been identified and steps have been taken to correct it. We have also contacted our original European valve supplier. They have sent us pricing and samples of valves which we will evaluate.

We are going to have to identify another source of aerosol cans. Southern Can has to date never met many of their promised ship dates. It is especially important during this season that they do meet those dates.

Wall Insulation

A wall has been constructed for the guarded hot box test on the Thermostud system with the T-clip. We should know in October what the in-place performance is of the Thermostud system with the T-clip. We can compare this to these performance results from our computer model.

As stated earlier we are requesting research help to determine the static charges of ZMI and EPS scrap. If our sales force can show proof that EPS scrap's high static change prevents it from completely filling blockcores we may be able to deter sales of EPS scrap without lowering ZMI prices. In addition we plan to have some thermographs produced of separate block walls filled with EPS scrap and ZMI. This should graphically reveal that ZMI is a superior product in filling and insulating the cores of a black wall.

G. N. Champa

GNC:jm

**EXHIBIT 8**

Copy Recd 3/31/83

06046312

September 12, 1956

Mr. Dohrman H. Byers, Ass't Chief
Toxicological Section
Public Health Service
1014 Broadway
Cincinnati 2, Ohio

Dear Dohrman:

I appreciate receiving your letter of September 5, concerning the samples I sent collected from the Zonolite Company and your comments on the asbestos situation. However, I believe that in my letter I should have mentioned a circumstance that might change your thinking on this somewhat, in that, even though the ore being treated by the Zonolite Company may have from 8 to 21 percent asbestos content at this time, a very small increase in asbestos content causes several factors increase in dust concentration. In other words, when nearly pure zonolite or vermiculite is being run, the dust concentration is at a pretty constant level. With a very small increase, say, of 5 or 10 percent in the asbestos content, the dust concentration goes up by several hundred per cent. Under these circumstances, the percentage asbestos in the dust in the air would be considerably more than the percentage in the material being processed.

At the first opportunity, I plan to make some analyses, or attempt to make some analyses of the increase in dust concentration with the increase in asbestos content. The company at this time, I believe, estimates the asbestos content of their ore by comparing a sample of material taken off certain size screens with bottles of prepared material in fixed quantities by color. The bottles are laboriously prepared by simply picking out certain number of pieces of asbestos, which is white in comparison to the relatively brown color of the vermiculite, mixing this with a certain number of particles of the same size of vermiculite, and obtaining a certain color. This appears to be about the only method they have of estimating the quantity of asbestos in the material. They take these estimates quite regularly from each lot of ore that is being processed.

I would appreciate any further information you may happen to run across concerning this matter.

Sincerely yours,

20156270

Benjamin F. Wake
Acting Industrial Hygiene Engineer
Disease Control Division

EFW/rsd

PLAINTIFF'S EXHIBIT 8 MDL 1374

EXHIBIT 3 Emergency Notice

**EXHIBIT 9**

CAMBRIDGE **CONFIDENTIAL** RECD APR 26 1977

TO: E. S. Wood

DATE: April 19, 1977

FROM: Julie C. Yang

SUBJECT: Tremolite Content in ZONOLITE® Products

CC: H. C. Duecker
H. A. Eschenbach
F. W. Eaton
W. R. Hanlon
R. M. Vining
B. R. Williams
J. W. Wolter
C. C. Ou
S. C. Vaughan
File: 71-046

OBJECTIVE:

The objective of this study is to determine the tremolite content in all ZONOLITE products made of both Libby and Kearney vermiculites. In a few cases, repetitious analyses were made for product used on job-sites, so that correlation can be made with the fiber counting results.

METHOD

When tremolite is determined from the product as received, in most products tremolite was not found by conventional analytical methods. The trace amount can be determined only when intensive concentration techniques are employed. Tremolite determinations are then made from the fractions by quantitative x-ray diffraction analysis and with the aid of petrographic microscopic examination.

1. Terra-Lite Vermiculites, Verxite, Redi-Earths and Metro-Mixes

The schematic method of analysis and the results have been reported in T&A 50110 with limited distribution. They are also reported here as shown in schemes 1, 2, and 3.

2. Scott Turf Builder

The method of concentration was very similar to that of Terra-Lite Vermiculite scheme #1, except in the water flotation step. A longer soaking period was needed to solubilize all the nutrients present, which was approximately 50% of the total weight.

3. ZIC, Attic Fill, Masonry Fill

Same concentration method as Terra-Lite (scheme #1).

PLAINTIFF'S EXHIBIT 9 MDL 1376

EXHIBIT 4 Emergency Notice

4. MONOKOTE

Analysis of tremolite in MONOKOTE was the most difficult and time-consuming procedure. The glass fibers were screened off, plaster of Paris was dissolved in water about 50-100 times the weight, expanded vermiculite was floated off, and all the washings were combined, filtered and dried. The filter paper and the organic matter were then burnt off; the remaining residue was x-rayed for the tremolite analysis. Detailed separation and concentration procedure is shown in scheme #4.

5. ZONOLITE 3300

Separation and concentration techniques are similar to that of MONOKOTE, but dilute acid (in HCl) was used to digest the portland cement binder instead of using large excess of water for solubilizing plaster of Paris. The procedure is shown in scheme #5.

RESULTS

A. Tremolite Content in ZONOLITE Products

Kearney

| ID No. | Product Description | | % Tremolite | |
|---|---|---|---|---|
| 1 | ZIC K-4 Kearney | | 5.466 | |
| 2 | ZIC K-4/5 B | | 1.715 | |
| 4 | Masonry Fill K-4 | | 1.605 | |
| 9 | Masonry Fill K-3 | | .0504 | |
| 11 | MK-4 Kearney 3 | | <0.08 | |
| 13 | MK-5 Kearney 3 | | <0.08 | |
| 17 | Terra-Lite Kearney | | 4.319 | |
| 18 | Terra-Lite T.R. | | 0.016 | |
| 20 | Metro Mix 200 T.R. | (as rec'd) | 0.398 | (dried)* .477 |
| 21 | Redi-Earth T.R. | (as rec'd) | 0.048 | (dried) .071 |
| 23 (5) | Vermiculite Carrier Grade #4, Kearney (St.Louis) | | 0.083 | (<0.008) |
| 26 | Metro-Mix 300, T.R. | (as rec'd) | 0.081 | (dried) 0.121 |
| 27 | Metro-Mix 350, T.R. | (as rec'd) | 0.156 | (dried) 0.259 |

*Metro-Mixes and Redi-Earths were computed both in as-received basis and oven-dried basis since the product has substantial amount of moisture.

by

| No. | Product Description | % Tremolite | |
|---|---|---|---|
| 0 | MK-4 (L-3) West Chicago | < 0.10 | |
| 6 | Masonry Fill (L4D-18) West Chicago | 0.01 | |
| 9 | Terra-Lite, W. Chicago | 0.035 | |
| 25 | Attic Fill (L-2) W.Chicago | .013 | |
| 28 | Redi-Earth (L) Santa Ana | (as rec'd) .031 | (dried) .051 |
| 14 | Redi-Earth (L) W. Chicago | <0.02 | |
| 15 | Metro-Mix 200 (L) W. Chicago | (as rec'd)0.034 | (dried)<.043 |
| 12 | Zonolite 3300 (L-3) W. Chicago | <0.007 | |
| 3 | Concrete Aggregate (L4D-18) W. Chicago | 0.344 | |
| 16 | Scott Turf Builder (L) Dark | <0.009 | |
| 22 | Scott Turf Builder (L) Light | <0.009 | |

B. Tremolite Content in Zonolite Job-site Samples

| ID No. | Product Description | Location | % Tremolite | |
|---|---|---|---|---|
| 8 | ZK Roof Deck (K 4/5 B) | Montgomery, Ala. | 2.828 | |
| 9 | Masonry Fill (K-3) | Columbus, Ohio | 0.050 | |
| 28 | Redi-Earth (L-4) | Forest Service, Santa Ana | 0.031 | (.051)* |
| 51 | Monokote-5 (L-3) | San Diego | <0.106 | |
| 54 | Masonry Fill (K-4) | W.Palm Beach, Fla. | 2.86 | |
| 55 | ZIC (K-4) | Edison H.S., Miami, Fla. | 0.476 | |
| 58 | Masonry Fill (L-3) | Mashburn & Coe Bldg., Oklahoma | 0.250 | |
| 57 | Monokote-4 (L-3) | Hyatt Regency, Dallas | 0.240 | |

*oven-dried basis

DISCUSSION and COMMENTS

1. Some of the Kearney products showed high "tremolite" content since x-ray diffraction method cannot distinguish massive tremolite (Hornblende?) and fibrous tremolite. Microscopically, most of the Kearney material showed trace or absence of fibers.

2. Tremolite fibers can be reduced if a screened vermiculite is used such as in vermite. We have observed that most of the fibers are concentrated in the fines.

To: E. S. Wood
From: J. C. Yang
April 20, 1977



3. The percentage of tremolite in several samples was expressed in less than a certain value which indicated that tremolite fiber was not detected by our x-ray method. The limit of detection for tremolite by x-ray diffraction technique is about 0.2%. When concentration factors were taken into consideration, the possible maximum tremolite content in each sample was indicated in the analyses.

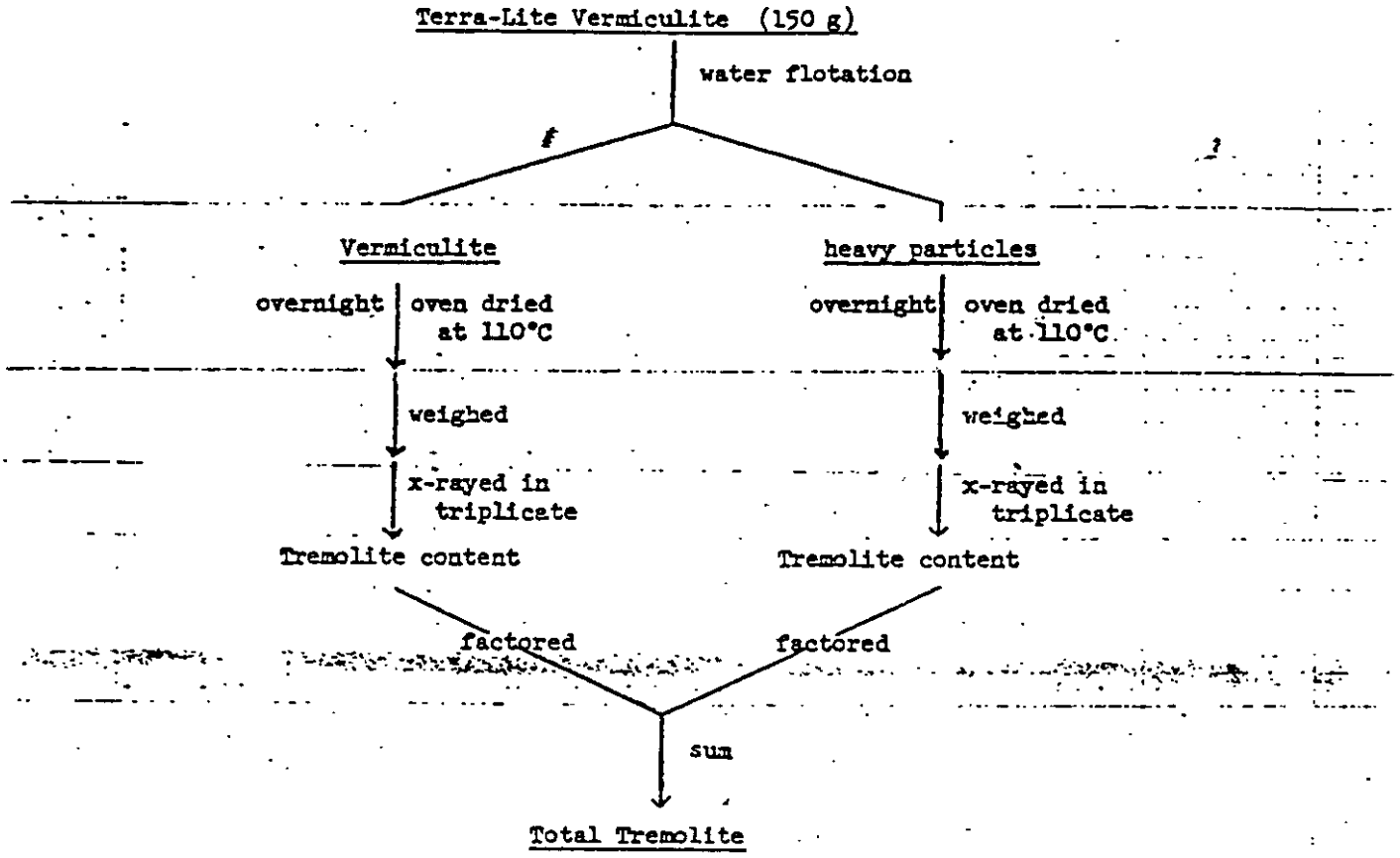
4. Most of the Monokote showed undetectable tremolite content except #57, an MK-4 product used at Hyatt Regency in Dallas, which showed a 0.24% tremolite; the value has been double checked and is real.

Julie C. Yang

JCY:mlr

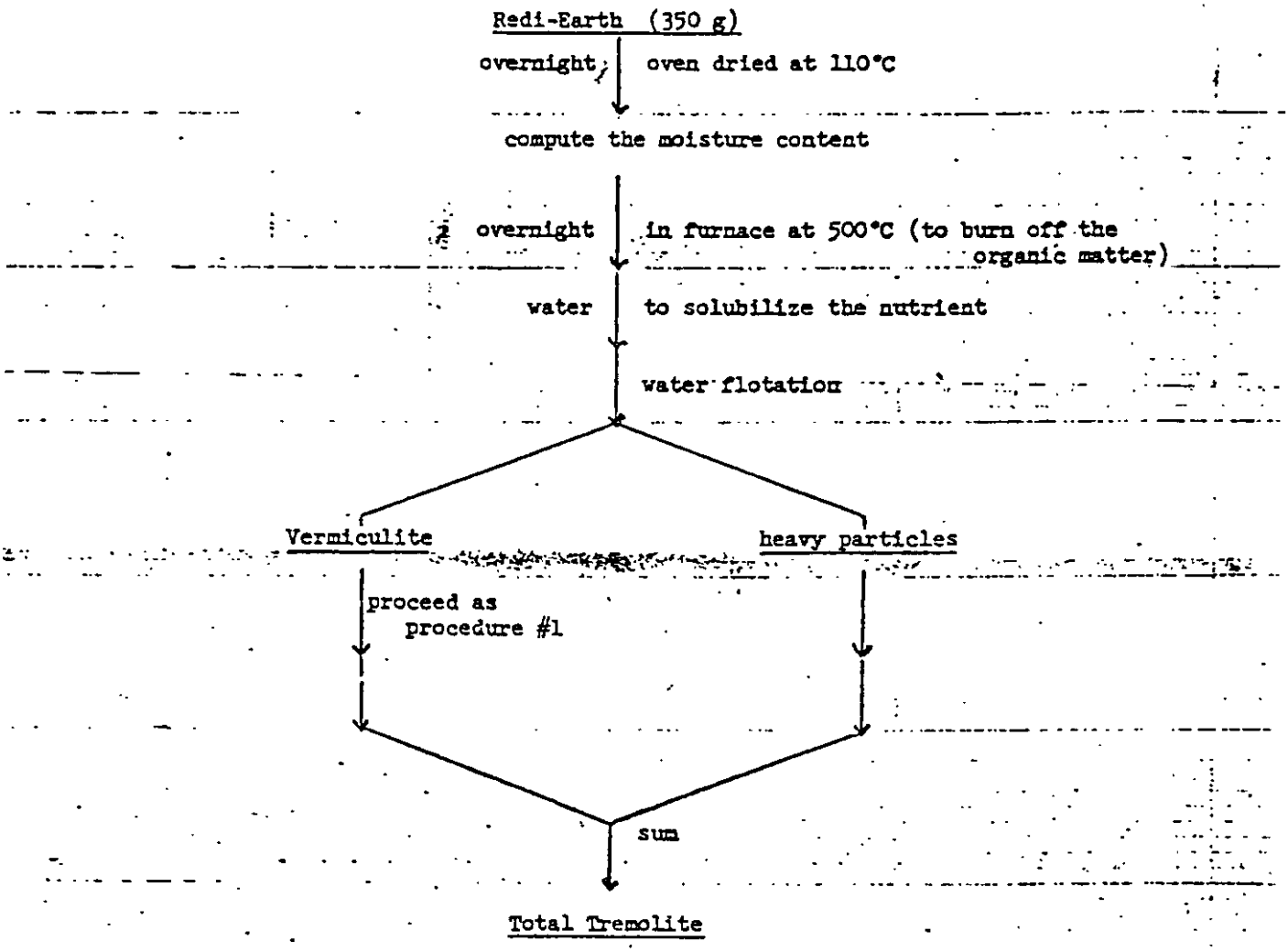
# 1. SCHEMATIC DIAGRAMS FOR TREMOLITE ANALYSIS

## 1. Tremolite Determinations in Terra-Lite Vermiculite



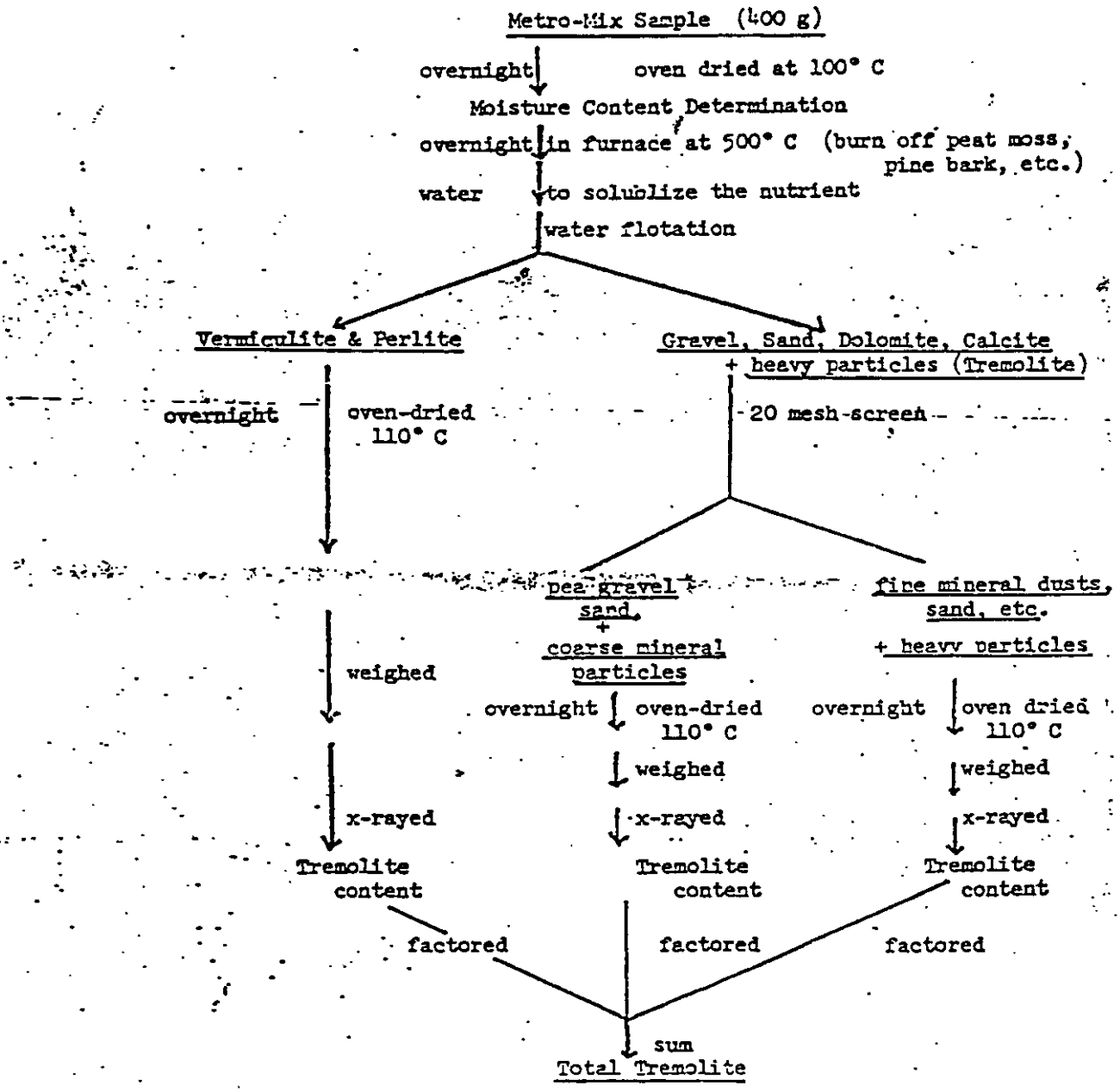

Julie C. Yang
April 19, 1977

2. Tremolite Determination in Redi-Earth




Julie C. Yang
April 19, 1977

3. Tremolite Determinations in Metro Mix

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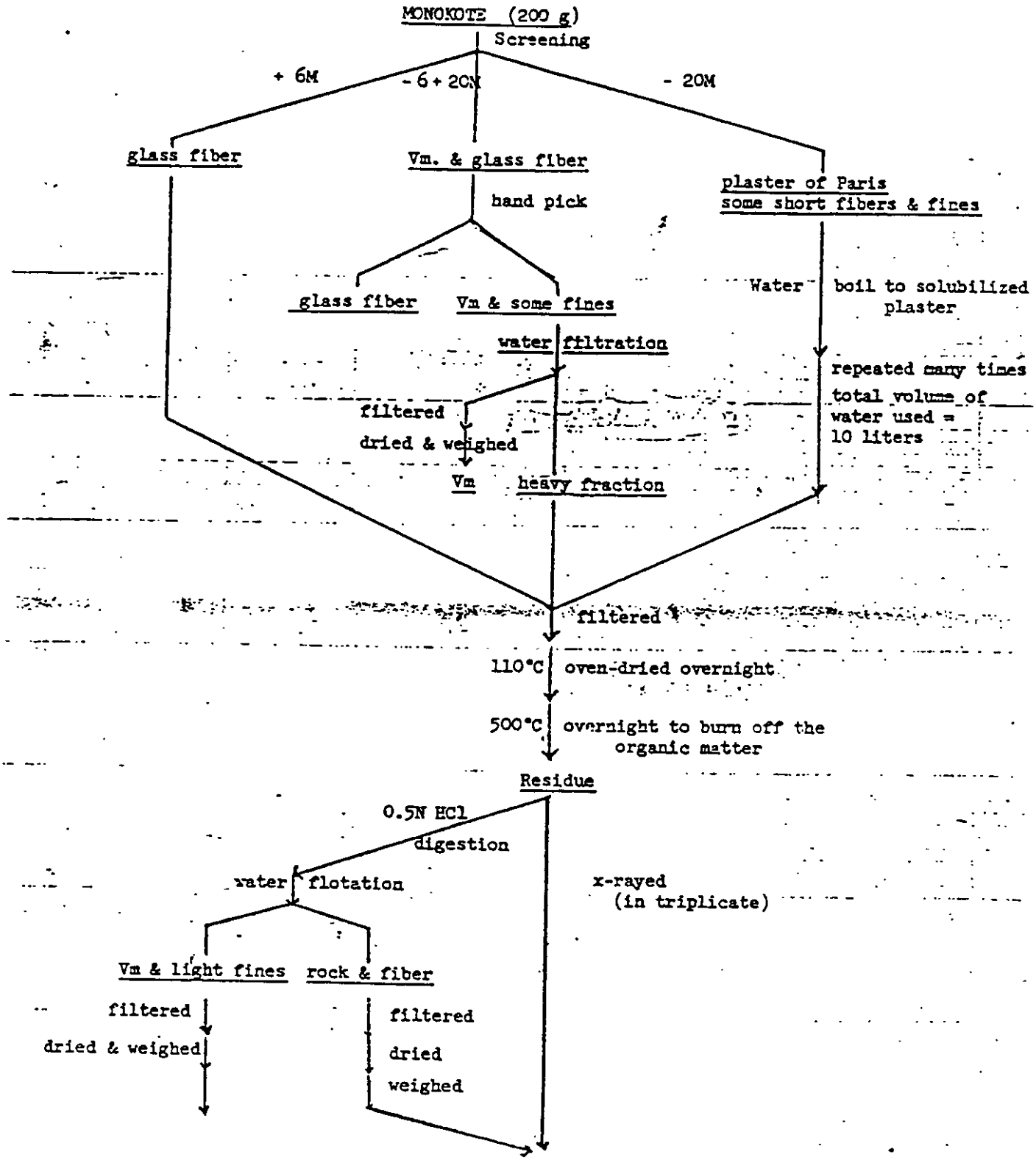
4. TREMOLITE DETERMINATION IN MONOKOTE

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## 5. TREMOLITE DETERMINATION IN ZONOLITE 3300

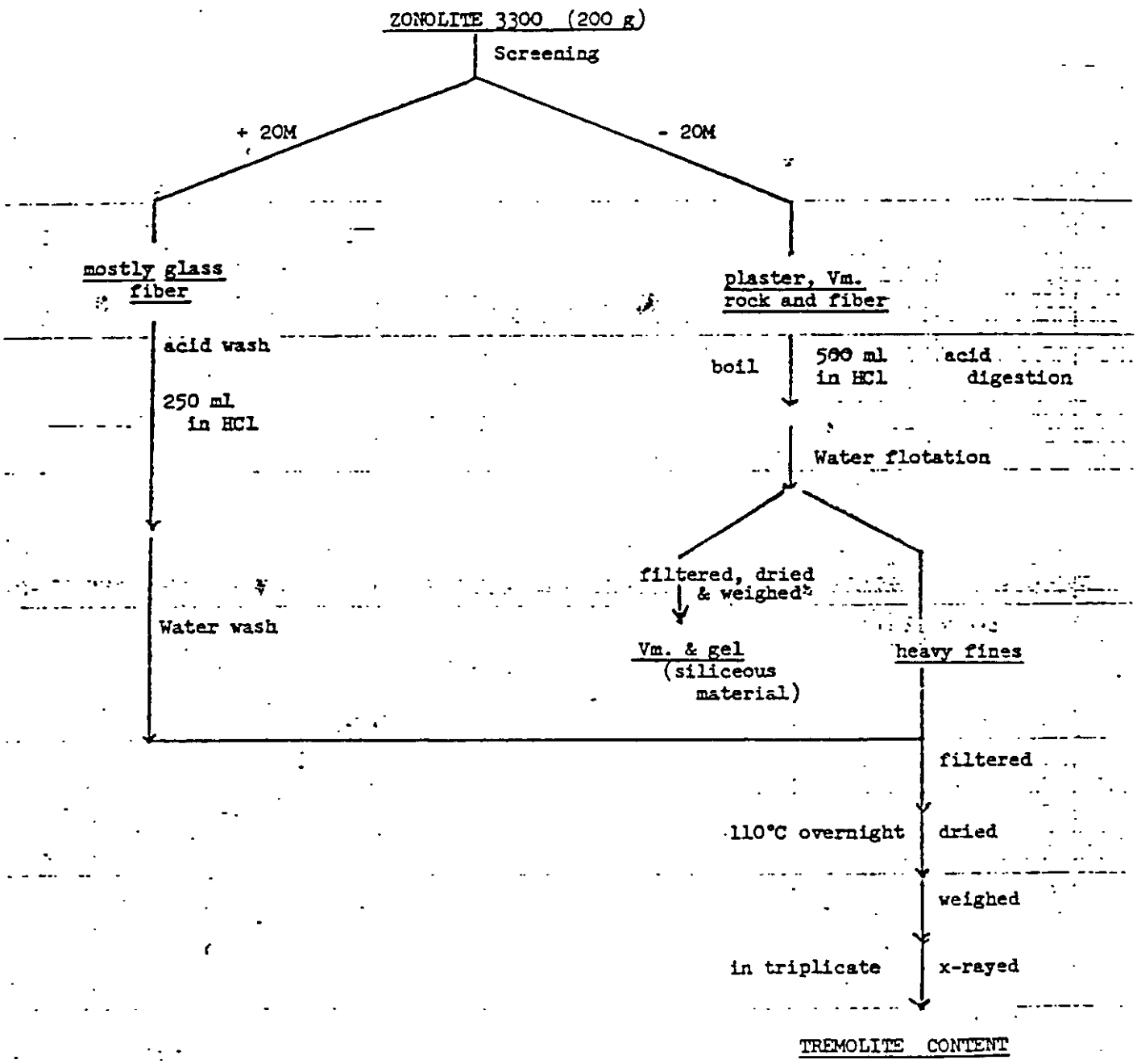


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**EXHIBIT 10**